

253PRLFSF547



DocumentID PRLF018

SITENAME CATAWBA

DocumentType PRLF Location Rpt (LR)

RptSegment 1

DocDate 11/1/1967

DocRcvd 11/1/1967

Box SF547

AccessLevel Public

Division Waste Management

Section Superfund

Program IHS (IHS)

DocCat Facility

SURVEY DATA
and
PROPOSED MANAGEMENT PROGRAM
for
SOLID WASTE DISPOSAL
in
CATAWBA COUNTY

Prepared By
SANITARY ENGINEERING DIVISION
NORTH CAROLINA STATE BOARD OF HEALTH
Raleigh, N. C.

SECTION I - Introduction

In the overall environmental sanitation picture of rapidly expanding urban communities of North Carolina, the problem of how to handle the estimated 4,511,000 tons of refuse produced annually offers one of our greatest challenges. This is a problem of the community as well as the individual and continual disregard on the part of either will certainly result in unnecessary disease and annoyance. Lack of understanding, carelessness and indifference is largely responsible for our present problems. Frequently, individual effort is fruitless without public control, but, at the same time, efforts of public health agencies are doomed to failure without support of individual citizens.

Refuse which is contaminated with disease organisms originating in the home or institutions provides food and shelter for many of our most important public health pests, insects and rodents. It is, therefore, necessary that refuse be handled in an acceptable manner from the point of origin to that of disposal. Refuse, at the point of origin, is largely the responsibility of the producer and must be stored in an approved manner. Refuse collection is accomplished in three ways: (1) by the individual, (2) by a governmental agency using public funds, and (3) by private contract garbage collectors who are paid by the individual receiving the service. Refuse disposal is normally accomplished by (1) the individual who utilizes his own land or disposal areas belonging to private or public agencies, (2) by governmental agencies who utilize publicly-owned disposal areas or (3) by private collectors who provide their own disposal area or utilize that of a public agency. No longer is the old-fashioned, insanitary refuse dump acceptable in today's society as a means of refuse disposal. An open dump is aesthetically offensive because of smoke and odors and is responsible for the reduction of adjacent land values, and are gradually being replaced by the sanitary landfill or other sanitary means of refuse disposal.

SECTION II - Legal Aspects

Authority to Regulate

State Board of Health

"Rules and Regulations Providing Standards for Solid Waste Disposal" adopted by the North Carolina State Board of Health as directed by Article 13B of Chapter 130 of the General Statutes shall be used as minimum standards for solid waste management.

Local Board of Health

County or district boards of health may adopt more stringent regulations as provided by General Statute 130-17.

Boards of Commissioners

County boards of commissioners have authority to regulate under G.S. 153-272 through 275, the collection and disposal of refuse by private persons and firms outside municipal boundaries.

In exercising this authority, the board of commissioners may:

- (1) Issue licenses or permits for the collection and disposal of refuse.
- (2) Prohibit collection and disposal by unlicensed persons.
- (3) Grant licensed persons exclusive rights to collect in designated areas.
- (4) Regulate the fees charged for private collection services.
- (5) Operate collection and disposal services.

Authority to Finance

The 1967 General Assembly amended G.S. 153-77 and G.S. 153-80 of the County Finance Act to authorize the issuance of bonds for sanitary landfills and for vehicles and equipment.

SECTION III - The Refuse Problem in Catawba County

The survey of Catawba County was completed in 1967, and the data has been summarized on the attached table. In addition, the following general information was gathered in regard to the storage, collection, and disposal of refuse.

Storage: There are administrative regulations governing on-site storage of solid waste in Catawba County. In many areas, these regulations are not enforced and solid waste is stored on the ground, in 55-gallon barrels, or in other type containers, many of which have no lids. This provides ideal conditions for the breeding and feeding of flies, rats, and other pests.

Collection: The refuse in the municipalities and in 60 percent of the county is collected once or twice per week.

Disposal: The study reveals that an estimated 75,885 tons of household, commercial, industrial, and institutional refuse is being collected annually by the towns, industry, and private collection firms in Catawba County. This amount of refuse is being placed at the five land disposal sites shown on the enclosed map. All sites are operated as open dumps.

The study reveals that there are approximately 23,793 people living in rural Catawba County who have no collection or disposal service. Computing their annual production rate at less than the urban dweller, an estimated 6,513 tons of refuse is produced by them annually. Part of this tonnage is being burned and part buried on the farm, but a large part is cluttering our farms, woodlands, streams, and highways. There was no estimated figure on the solid waste generated by the large tourist population, but it must be considered in a plan for Catawba County.

SECTION IV - Recommendations

To protect the health of the people of Catawba County and to prevent the depreciation of the county's environment, solid waste disposal shall meet the standards set by the North Carolina State Board of Health.

Storage: Solid waste storage shall meet the standards as set forth in Section IV of the North Carolina State Board of Health "Rules and Regulations Providing Standards for Solid Waste Disposal."

Collection: Solid waste collection within a municipality should be the responsibility of the local government. House-to-house collection in unincorporated areas should be left to private enterprise (private collectors). A container system should be provided for collection in those unincorporated areas where house-to-house service is not available or is not economically feasible.

All solid waste collectors shall meet the standards as set forth in Section II of the North Carolina State Board of Health "Rules and Regulations Providing Standards for Solid Waste Disposal."

Disposal: In the preparation of recommendations for the disposal of refuse by the sanitary landfill method, it is necessary to consider length of haul, volume of refuse, population density, and cost to county and municipalities. Based on these factors, it is recommended that:

1. The Catawba County Board of Commissioners, in cooperation with the municipalities, provide two sanitary landfills in the general vicinity of the proposed location shown on the enclosed map to serve the total population of Catawba County.
2. After the county sites are opened, the present dumps should be closed and covered with two feet of compacted earth. Note: Soon after these dumps are closed and before they are covered with earth, they should be heavily baited with rat poison for at least two weeks. This will prevent the rat population from migrating to other areas.

There is nothing in these recommendations that would prevent the individual from disposing of his own refuse as long as it is done in a manner approved by the Health Director.

The disposal operation shall be in accordance with Section XI, North Carolina State Board of Health "Rules and Regulations Providing Standards for Solid Waste Disposal."

Supervision: In order that adequate supervision may be provided, it is recommended that the ~~Waywood~~ ^{School District} County Health Department be put in charge of the operation. This would consist of: promotion of this program, education of the public, and supervision of the landfill ^{+ container system} operations.

SECTION V - Cost Analysis

The following cost estimates are based on the operation of two (2) sanitary landfills for the total population of Catawba County, and a container system for collection as recommended in Section IV of this report.

Capital Investment - Landfills

Sites

Two (2) sites of thirty (30) acres each @ \$500/acre	\$30,000
--	----------

Equipment

Two (2) high-lift loaders with multi-purpose buckets, cabs and heaters (Caterpillar 977 or equal) @ \$45,000	90,000
One (1) self-loading pan (11 cu. yd.)	35,000
One (1) pickup truck	2,500

Structures

Two (2) structures to provide shelter for equipment and office space @ \$4,000 each	8,000
---	-------

Miscellaneous

Site preparation (access road, gates, signs, etc.) @ \$5,000/site	<u>10,000</u>
--	---------------

TOTAL	\$175,000
-------	-----------

Capital Investment - Container System

One (1) mother truck (30-31 cu. yd.)	\$28,000
Eighty (80) containers of 4 cu. yd. @ \$275/container	22,000
Site preparation for containers @ \$50/container	<u>4,000</u>
TOTAL	\$54,000
Legal fees	\$ 1,000
Plans	1,000
Supervision of site preparation	<u>1,000</u>
TOTAL	\$ 3,000
TOTAL CAPITAL INVESTMENT	\$232,500

Annual Operating Cost - Landfills

One (1) solid waste manager	\$ 7,200
Three (3) equipment operators @ \$6,000 each	18,000
Fuel and repairs	10,000
Equipment depreciation	15,000
Miscellaneous (s.s., ins., etc.)	<u>5,000</u>
TOTAL	\$55,200

Annual Operating Cost - Container System

One (1) mother truck operator	\$ 6,000
Fuel and repairs (25,000 miles @ 25¢/mile)	6,250
Equipment depreciation - Mother truck - \$3,500	5,700
Containers - \$2,200	
Miscellaneous (s.s., ins., etc.)	<u>2,000</u>
TOTAL	\$19,950
TOTAL ANNUAL OPERATING COST	\$75,100

Note:

1. The solid waste manager would be the assistant loader and mother truck operator.
2. The container would be serviced twice per week or as needed.
3. The container would be for household waste only.
4. The pan would serve both sites.
5. Municipalities and industry would haul their solid waste or use private collectors.

6. This recommended solid waste management program can be operated in Catawba County for an annual operating cost of 83 cents per person using the present population figure.

SECTION VI - Conclusion

1. The problem of refuse disposal in Catawba County is due to a number of factors. There are more disposable items on the market today than ever existed in the past as many containers are no longer the returnable and reusable types, but are disposables. The pounds of disposed items per capita per day have doubled over the past decade. Regardless of whether the area of discussion is rural or urban, the disposable items are still the problem, only the quantity changes.
2. This is a problem that affects the total population from the farmer who is being dumped upon to the person who lives near an open, burning dump.
3. The Solid Waste and Vector Control Section of the State Board of Health, through your local health department, is available to assist in any way possible.
4. The recommendations of this report were made to meet the anticipated needs for a ten-year period. Before the end of this time, exhaustive studies of new methods should be made and incorporated in plans for the future.

**SUMMARY OF SOLID WASTE COLLECTION
& DISPOSAL SURVEY DATA**
CATAWBA COUNTY

Total Population: 90,873
Urban: 38,320 Rural: 52,553

Total Area (sq.mi.) 406.0
Date Compiled: 11-67

UNIT	AREA (sq.mi.)	POPULATION	QUANTITY PER ANNUM (tons)	TOTAL EXPENDI- TURES	COLLECTION						DISPOSAL					SEE NOTE NO.
					BY	NO. OF MEN	NO. OF TRUCKS		FREQUENCY		BY	NO. OF MEN	EQUIPMENT		USABLE ACRES	
							COMP.	OTHER	RES.	COMM.			NO.	TYPE		
Hickory	8.3	22,647	34,110	200,417	PA	19	4	3	2 PW	6 PW	OD	3	2	1 truck-1 loader	5	
Newton	4.0	7,324	16,767	88,000	PA	16	3	1	2 PW	6 PW	SL	2	3	truck - dragline	50	
Conover	2.0	2,509	11,602	26,986	PA	3	2	1	2 PW	6 PW	OD	1	1	loader	1	
Longview	1.3	3,297	2,713	12,000	PA	3	2	4	2 PW	6 PW	OD	0	0		2	
Maiden		2,039	3,120	1,400							OD	0	0		4	
Town of Catawba		504	520	200							OD	0	0		1	
Catawba County		23,793	6,513		NO COLLECTION OR DISPOSAL											

NOTES:

PA - Public Agency

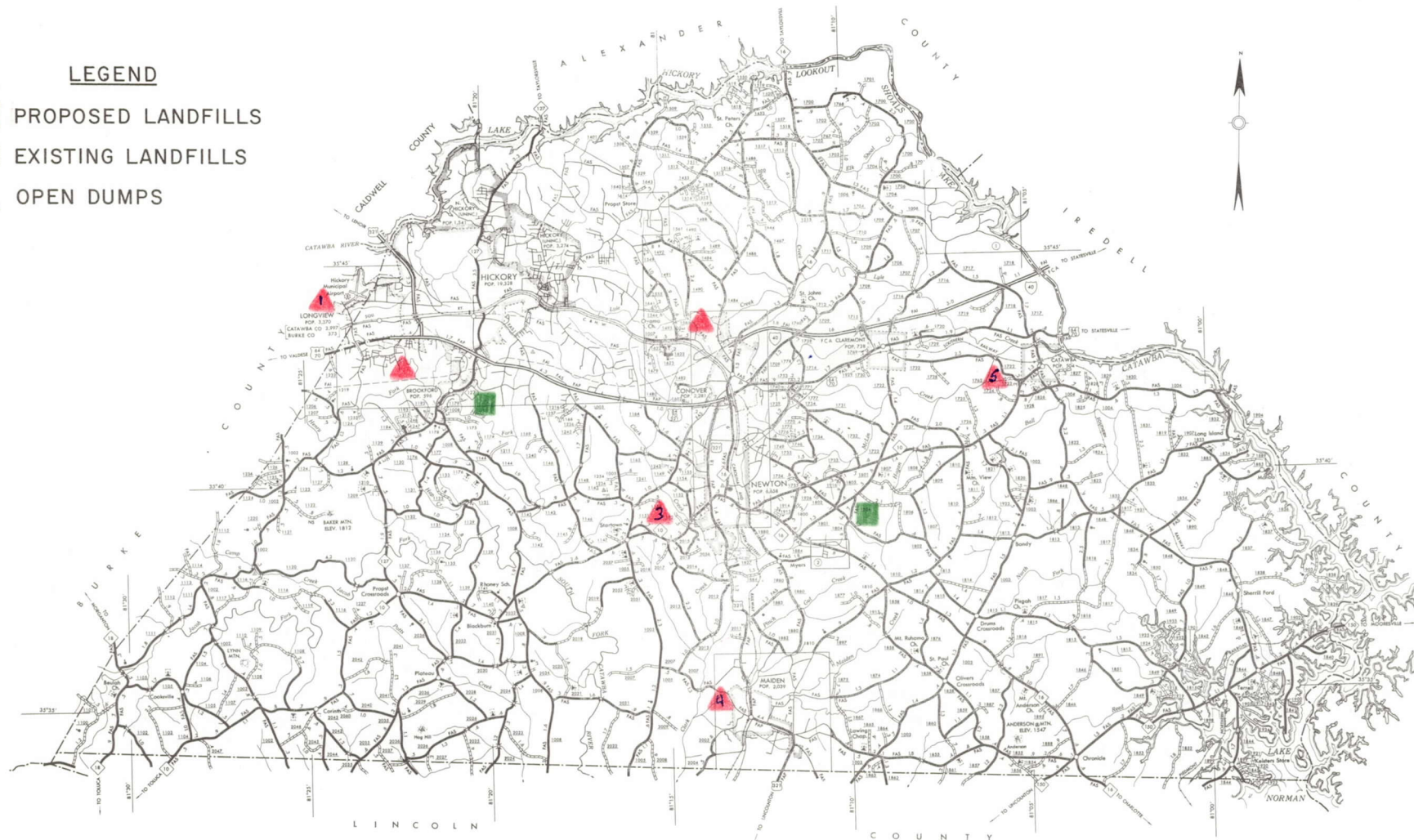
PC - Private Collector

SL - Sanitary Landfill

OD - Open Dump

LEGEND

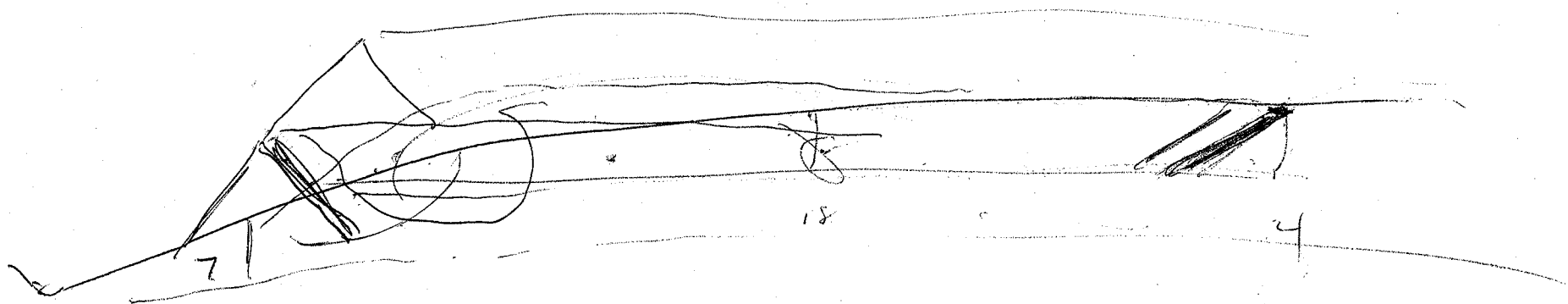
- PROPOSED LANDFILLS
- EXISTING LANDFILLS
- OPEN DUMPS



CATAWBA COUNTY
NORTH CAROLINA

SCALE
0 1 2 3 4 MILES
0 0.5 1 1.5 2 2.5 3 3.5 4 KILOMETERS
SCALE FOR ENLARGEMENTS

30
4



coll